



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/696,462 **Confirmation No.:** 5987
Applicants: Golovchenko et al.
Filed: October 29, 2003
TC/A.U.: 2879
Examiner: E. Rielley
Docket No.: HVD2093
For: Carbon Nanotube Device Fabrication

COMMISSIONER FOR PATENTS
P. O. BOX 1450
ALEXANDRIA, VIRGINIA 22313-1450

I hereby certify that this correspondence is
being deposited on the date shown below with the
United States Postal Service with sufficient postage
as first class mail, under 37 CFR 1.8(a),
in an envelope addressed to: Commissioner For
Patents, PO Box 1450, Alexandria, VA 22313-1450

Thomas A. Lee
December 1, 2005

INFORMATION DISCLOSURE STATEMENT FILED PURSUANT
TO THE DUTY OF DISCLOSURE UNDER 37 CFR §1.56, §1.97, AND §1.98

Pursuant to the duty of disclosure under 37 CFR §1.56, §1.97, and §1.98, the Applicants
request consideration of this Information Disclosure Statement.

Compliance with 37 CFR §1.97:

This Information Disclosure Statement is hereby filed under §1.97 (c) at a time prior to
the mailing date of a final action or notice of allowance.

A check in the amount of \$180.00 is enclosed for the IDS fee under 1.17(p). Please apply
any deficiency in the stated fee and any other required fees, and please apply any overpayment, to
Deposit Account No. 12-1760.

12/06/2005 DTESSEM1 00000059 10696462

02 FC:1806

180.00 OP

Information Cited:

The Applicants hereby make of record in the instant application the information listed on the attached 5 total pages of Forms PTO/SB/08A, of 2 pages, and PTO/SB/08B, of 3 pages. The order of presentation of the references on the forms should not be construed as an indication of the importance of the references. A copy of each of the listed items is enclosed.

Remarks:

Items A4, A5, A21, A23, B5, and B9 were cited in the International Search Report for International Application PCT/US03/34868, which is the international application counterpart to the instant application. A copy of the International Search Report and the Written Opinion for PCT/US03/34868 accompanies this Information Disclosure Statement.

A continuation-in-part application to the instant application was filed on June 6, 2005, as USSN 11/145,650. A counterpart international application PCT/US05/19792 was also filed.

Items A18, A22, A24, A25, B8, B21, and B22 were cited in the International Search Report for International Application PCT/US05/19792, the international counterpart to the CIP application just introduced above. A copy of the International Search Report and the Written Opinion for PCT/US05/19792 accompanies this Information Disclosure Statement.

Items A23, A24, and A25 are not English-language documents, with no translation provided. In accordance with MPEP 609 A(3), the requirement for a concise explanation of the relevance of the non-English language Items A23, A24, and A25 documents is satisfied by the submission herewith of the corresponding International Search Report in which the items were cited, with the International Search Report indicating the degree of relevance of the document. Item A23 was cited in the International Search Report for International Application PCT/US03/34868. Items A24 and A25 were cited in the International Search Report and the Written Opinion for International Application PCT/US05/19792. Copies of the International Search Reports and the Written Opinion are herewith provided for the Examiner's reference.

The Applicants respectfully request that:

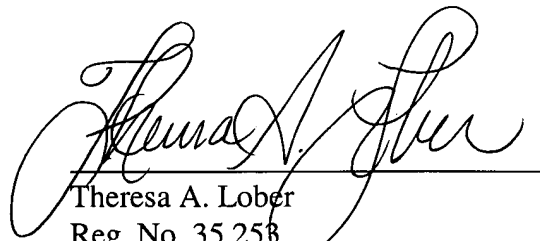
1. The Examiner consider completely the cited information in reaching a determination concerning the patentability of the pending claims;
2. The enclosed Forms PTO/SB/08A and PTO/SB/08B be initialed and signed by the Examiner and a signed copy returned to the undersigned Agent to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application; and
3. The citations for the information listed on the enclosed Forms PTO/SB/08A and PTO/SB/08B be printed on any patent that issues from this application.

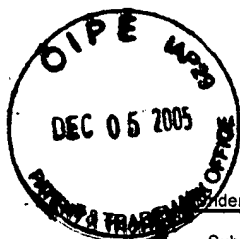
In submitting this Information Disclosure Statement, the Applicants make no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist. In submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 CFR §1.56(b). In submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicants, the Examiner is urged to form her own conclusion regarding the relevance of the cited information. An early and favorable action is hereby requested.

Respectfully Submitted

Date: December 1, 2005
T. A. Lober Patent Services
45 Walden Street
Concord, Massachusetts 01742
Telephone: 978.369.2181
Facsimile: 978.369.7101


Theresa A. Lober
Reg. No. 35,253
Agent for Applicants
Customer Number 26247



PTO/SB/08A (07-05)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 5

Complete if Known

Application Number	10/696,462
Filing Date	October 29, 2003
First Named Inventor	Golovchenko
Art Unit	2879
Examiner Name	E. Rielley
Attorney Docket Number	HVD2093

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1	US- 2001/0009693	07-26-2001	Lee et al.	
	A2	US- 6,297,063	10-02-2001	Brown et al.	
	A3	US- 6,333,016	12-25-2001	Resasco et al.	
	A4	US- 2002/0014667	02-07-2002	Shin et al.	
	A5	US- 6,346,189	02-12-2002	Dai et al.	
	A6	US- 6,350,488	02-26-2002	Lee et al.	
	A7	US- 6,361,861	03-26-2002	Gao et al.	
	A8	US- 2002/0046872	04-25-2002	Smalley et al.	
	A9	US- 2002/0167374	11-14-2002	Hunt et al.	
	A10	US- 2002/0172767	11-21-2002	Grigorian et al.	
	A11	US- 6,515,339	02-04-2003	Shin et al.	
	A12	US- 6,528,020	03-04-2003	Dai et al.	
	A13	US- 6,555,362	04-29-2003	Hidaka et al.	
	A14	US- 6,566,983	05-20-2003	Shin	
	A15	US- 6,605,894	08-12-2003	Choi et al.	
	A16	US- 2003/0157333	08-21-2003	Ren et al.	
	A17	US- 2003/0186167	10-02-2003	Johnson Jr. et al.	
	A18	US- 2003/0214054	11-20-2003	Awano et al.	
	A19	US- 2004/0043527	03-04-2004	Bradley et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	A20	WO 02/26624 A1	04-04-2002	President and Fellows of Harvard College		
	A21	WO 01/44796 A1	06-21-2001	Bd. of Trustees of the Leland Stanford Jr University		
	A22	WO 02/054505 A2	07-11-2002	IBM United Kingdom Ltd		
	A23	WO 02/092505 A2	11-21-2002	Infineon Technologies		
	A24	WO 2004/040616 A2	05-13-2004	Hahn-Meitner-Inst. Berlin		
	A25	DE 102 50 829 A1	10-31-2002	Infineon Technologies		

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Application Number	10/696,462
Filing Date	October 29, 2003
First Named Inventor	Golovchenko
Art Unit	2879
Examiner Name	E. Rielley
Attorney Docket Number	HVD2093

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number	10/696,462		
		Filing Date	October 29, 2003		
		First Named Inventor	Golovchenko		
		Art Unit	2879		
		Examiner Name	E. Rielley		
Sheet	3	of	5	Attorney Docket Number	HVD2093

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	B1	KONG et al., "Synthesis of individual single-walled carbon nanotubes on patterned silicon wafers," Nature, Vol. 395, pp. 878-881, October 29, 1998.	
	B2	FAN et al., "Self-Oriented Regular Arrays of Carbon Nanotubes and Their Field Emission Properties," Science, Vol. 283, pp. 512-514, January 22, 1999.	
	B3	MARTEL et al., "Single- and multi-wall carbon nanotube field-effect transistors," Appl. Phys. Lett., Vol. 73, No. 17, pp. 2447-2449, October 26, 1998.	
	B4	REN et al., "Growth of a single freestanding multiwall carbon nanotube on each nanonickel dot," Appl. Phys. Lett., Vol. 75, No. 8, pp. 1086-1088, August 23, 1999.	
	B5	CASELL et al., "Directed Growth of Free-Standing Single-Walled Carbon Nanotubes," J. Am. Chem. Soc., Vol. 121, pp. 7975-7976, 1999.	
	B6	SEEGER et al., "SiO _x -coating of carbon nanotubes at room temperature," Chem. Phys. Lett., Vol. 339, pp. 41-46, May 4, 2001.	
	B7	ZHANG et al., "Electric-field-directed growth of aligned single-walled carbon nanotubes," Appl. Phys. Lett., Vol. 79, No. 19, pp. 3155-3157, November 5, 2001.	
	B8	WIND et al., "Vertical scaling of carbon nanotube field-effect transistors using top gate electrodes," Appl. Phys. Lett., Vol. 80, No. 20, pp. 3817-3819, May 20, 2002.	
	B9	FRANKLIN et al., "Integration of suspended carbon nanotube arrays into electronic devices and electromechanical systems," Appl. Phys. Lett., Vol. 81, No. 5, pp. 913-915, July 29, 2002.	
	B10	HOMMA et al., "Growth of suspended carbon nanotube networks on 100-nm-scale silicon pillars," Appl. Phys. Lett., Vol. 81, No. 12, pp. 2261-2263, September 16, 2002.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	10/696,462
				Filing Date	October 29, 2003
				First Named Inventor	Golovchenko
				Art Unit	2879
				Examiner Name	E. Rielley
Sheet	4	of	5	Attorney Docket Number	HVD2093

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	B11	URAL et al., "Electric-field-aligned growth of single-walled carbon nanotubes," Appl. Phys. Lett., Vol. 81, No. 18, pp. 3464-3466, October 28, 2002.	
	B12	CAMPBELL et al., "Simple catalyst for the growth of small-diameter carbon nanotubes," Appl. Phys. Lett., Vol. 81, No. 24, pp. 4586-4588, December 9, 2002.	
	B13	JAVEY et al., "High-k dielectrics for advanced carbon-nanotube transistors and logic gates," Nature Materials, Vol. 1, pp. 241-246, December 2002.	
	B14	WHITSITT et al., "Silica Coated Single Walled Carbon Nanotubes," Nano Letters, Vol. 3, No. 6, pp. 775-778, 2003.	
	B15	ZAMBOV et al., "Template-Directed CVD of Dielectric Nanotubes," Chem. Vap. Deposition, Vol. 9, No. 1, pp. 26-33, 2003.	
	B16	MARTY et al., "Self-assembled single wall carbon nanotube field effect transistors," IEEE Nano, Vol. 2, pp. 240-243, 2003.	
	B17	HAN et al., "Coating Single-Walled Carbon Nanotubes with Tin Oxide," Nano Letters, Vol. 3, No. 5, pp. 681-683, 2003.	
	B18	CHUNG et al., "Nanoscale gap fabrication and integration of carbon nanotubes by micromachining," Sensors and Actuators A, Vol. 104, pp. 229-235, 2003.	
	B19	PENG et al., "Patterned growth of single-walled carbon nanotube arrays from a vapor-deposited Fe catalyst," Appl. Phys. Lett., Vol. 83, No. 20, pp. 4238-4240, November 17, 2003.	
	B20	CHIN et al., "Optical limiting properties of amorphous SixNy and SiC coated carbon nanotubes," Chem. Phys. Lett., Vol. 383, pp. 72-75, 2004.	

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number	10/696,462		
		Filing Date	October 29, 2003		
		First Named Inventor	Golovchenko		
		Art Unit	2879		
		Examiner Name	E. Rielley		
Sheet	5	of	5	Attorney Docket Number	HVD2093

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	B21	RADOSAVLJEVIC et al., "High performance of potassium n-doped carbon nanotube field-effect transistors," Appl. Phys. Lett., Vol. 84, No. 18, pp. 3693-3695, May 3, 2004.	
	B22	GRAHAM et al., "Towards the integration of carbon nanotubes in microelectronics," Diamond and Related Materials, Vol. 13, pp. 1296-1300, 2004.	
	B23	PENG et al., "Coulomb blockade in suspended Si ₃ N ₄ -coated single-walled carbon nanotubes," Appl. Phys. Lett., Vol. 84, No. 26, pp. 5428-5430, June 28, 2004.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.